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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,105	05/29/2007	Hans-Helmut Bechtel	PHDE030405 US	2071

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EXAMINER

HOLLWEG, THOMAS A

ART UNIT	PAPER NUMBER
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2879

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/596,105	Applicant(s) BECHTEL ET AL.	
	Examiner Thomas A. Hollweg	Art Unit 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary Amendment

1. Applicant's Preliminary Amendment, received May 31, 2006, is acknowledged.
Claims 1-10 are currently pending.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 6-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Hanaoka, Patent Abstracts of Japan No. 2003-031355.
4. With regard to claim 1, in figure 1, Hanaoka discloses a display comprising a ground plate (91) and at least one emitting layer (21) and at least one isolating separator layer (10) each positioned in contacting manner on said ground plate (91), the at least one emitting layer (21) and the at least one isolating separator layer (10) being positioned adjacent to each other in a contacting manner, whereby the isolating separator layer (10) is reflective [0020-0026].
5. With regard to claim 2, in figure 1, Hanaoka discloses that the material of said at least one isolating separator layer (10) comprises a metal material [0020-0026].
6. With regard to claim 6, in figure 1, Hanaoka discloses that the surface of said at least one isolating separator (10) is specular reflective [0020-0026].

7. With regard to claim 7, in figures 3 and 6, Hanaoka discloses that light impinging on said at least one isolating separator layer (10) in an angle is at least to a part reflected in a different angle [0026-0029].

8. With regard to claim 8, the examiner notes that all of the claim limitations are characteristics of the display as operated and do not expressly limit the structure of the claimed device. Hanaoka does not expressly disclose the efficiency of the disclosed display, however, it anticipates all of the structural limitations of claim 8. These limitations have been considered, but absent a showing of a further limiting of the structure of the display, these limitations cannot distinguish the claimed display over Hanaoka. Further, because Hanaoka discloses all of the structural limitations of claim 8, as operated, the Hanaoka display will be characterized in that the efficacy of the display for white light with a correlated colour temperature of 6500 K is at least ≥ 0.5 lumen/W, preferred ≥ 1.4 lumen/W, more preferred ≥ 3.8 lumen/W, more preferred ≥ 5.2 lumen/W, and most preferred ≥ 5.6 lumen/W.

9. With regard to claim 9, the examiner notes that the claim limitation "the display is formed by an ink-jet printing or photolithography or vacuum deposition or a combination of these processes" is drawn to a process of manufacturing which is incidental to the claimed apparatus. It is well established that a claimed apparatus cannot be distinguished over the prior art by a process limitation. Consequently, absent a showing of an unobvious difference between the claimed product and the prior art, the subject product-by-process claim limitation has been considered, but not patentably distinct over Hanaoka (see MPEP 2113). The Examiner notes further that the listed methods

for making are well known in the art, and disclosed by Hanaoka [0023], and it would be obvious to one having ordinary skill in the art to make the Hanaoka display device with these methods.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 3, 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanaoka as applied to claims 1 and 2 above, in view of Hamano et al., U.S. Patent Application Publication No. 2003/0164679 A1.

12. With regard to claim 3, all of the limitations are disclosed by Hanaoka, as discussed in the rejection of claim 2 above, however, Hanaoka is silent as to the specific material used for the reflective metallic layer.

13. Hamano, in figure 1, discloses a reflective structure in an organic electroluminescent display that is composed of aluminum [0095, 0111-0112]. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Hanaoka display where the reflective metallic components are composed of aluminum, as taught by Hamano, because aluminum is a highly efficient reflecting material.

14. With regard to claim 4, in figure 1, Hamano teaches that the aluminum reflective metallic material comprises aluminum-flakes [0095].

15. With regard to claim 10, all of the limitations are disclosed by Hanaoka, as discussed in the rejection of claim 1, however, Hanaoka does not expressly disclose that the display is used in household applications, portable applications, monitor applications, computer applications.

16. Hamano, in figure 23, teaches that the display device can be used in portable applications [0038, 0411-0412]. At the time of invention, it would have been obvious for a person having ordinary skill in the art to use the display disclosed in Hanaoka in portable applications, as taught by Hamano, because it would provide excellent brightness and resolution.

17. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hanaoka as applied to claim 1 above, in view of Bechtel et al., U.S. Patent Application Publication No. 2003/0011306 A1.

18. With regard to claim 5, all of the limitations are disclosed by Hanaoka, as discussed in the rejection of claim 1 above. However, Hanaoka does not expressly disclose polarization plates on the display.

19. Bechtel teaches a $\lambda/4$ plate and a linear polarization layer is positioned on an organic electroluminescent display device to suppress the reflections of external light from the reflective surfaces internal to the device [0051-0052].

20. At the time of invention, it would have been obvious for a person having ordinary skill in the art to construct the Hanaoka display comprising at least one $\lambda/4$ plate and at least one linear polarisation layer positioned on the ground plate opposing said isolating separator layer in such a way, that ambient light that moves through the ground plate

towards the isolating separator layer as well as light that moves from said isolating separator layer towards said ground plate is forced to pass said at least one $\lambda/4$ plate and at least one linear polarisation layer. These additional layers would suppress the reflections of external light from the reflective surfaces internal to the device, as taught by Bechtel.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Hollweg whose telephone number is (571) 270-1739. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm E.S.T..

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/TH/

/Nimeshkumar Patel/
Supervisory Patent Examiner, Art Unit 2879